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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/674,237 | 07/24/2001 | Sean E. Egan | 3477-89 | 4932 |

20792 7590 01/29/2003

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| EXAMINER |
|---|
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| ART UNIT | PAPER NUMBER |
|---|---|
| 1642 | |

DATE MAILED: 01/29/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. 09/674,237 | Applicant(s) EGAN ET AL. | |
|---|---|---|---|
| | Examiner MINH-TAM DAVIS | Art Unit 1642 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *13 November 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-58* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-58* are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

Effective February 7, 1998, the Group Art Unit location has been changed, and the examiner of the application has been changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Minh-Tam Davis, Group Art Unit 1642.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The request for new restriction requirement in paper No:13 on 11/13/02 is acknowledged.

After review and reconsideration, the restriction requirement of paper No:12 is vacated, and replaced with the following restriction requirement.

### *Election/Restrictions*

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group 1. Claims 1-2, 4-10, 19, 50-53, drawn to an isolated nucleotide sequence encoding the murine Ese1 protein of SEQ ID NO:3, or the murine Ese1 nucleotide sequence of SEQ ID NO: 1 and its coding sequence of SEQ ID NO:2, a fragment of at least 10 consecutive nucleotides thereof, a complement thereof, a vector

comprising said nucleic acid, a host cell comprising said vector, and a method for producing the murine Ese1 protein of SEQ ID NO:3.

Group 2. Claims 1-2, 4-10, 19, 50-53, drawn to an isolated nucleotide sequence encoding the variant murine Ese1L protein of SEQ ID NO:24, or the variant murine Ese1L nucleotide sequence of SEQ ID NO: 22 and its coding sequence of SEQ ID NO:23, a fragment of at least 10 consecutive nucleotides thereof, a complement thereof, a vector comprising said nucleic acid, a host cell comprising said vector, and a method for producing the variant murine Ese1L protein of SEQ ID NO:24.

Group 3. Claims 1, 3, drawn to an isolated nucleotide sequence encoding a human Ese1 protein.

Group 4. Claims 1, 3, drawn to an isolated nucleotide sequence encoding a splice variant human Ese1L protein.

Group 5. Claims 11-12, 14-17, 39, drawn to a murine Ese1 protein of SEQ ID NO:3, a fragment, or mimetic thereof, or a non-functional mutant protein, fragment, or mimetic thereof.

Group 6. Claims 11-12, 14-17, 39, drawn to a variant murine Ese1L protein of SEQ ID NO: 24, a fragment, or mimetic thereof, or a non-functional mutant protein, fragment, or mimetic thereof.

Group 7. Claims 13, 16-17, 39, drawn to a human Ese1 protein , a fragment, or mimetic thereof, or a non-functional mutant protein, fragment, or mimetic thereof.

Group 8. Claims 11-12, 14-17, 39, drawn to a variant human Ese1L protein, a fragment, or mimetic thereof, or a non-functional mutant protein, fragment, or mimetic thereof.

Groups 9-12. Claim 18, drawn to an antibody to a murine Ese1, Ese1L, human Ese1 or human Ese1L. An antibody to each of said Ese polypeptide constitutes a single invention.

Group 13. Claims 20-29, 38, 54-57, drawn to an isolated nucleotide sequence encoding the murine Ese2 protein of SEQ ID NO:6, or the murine Ese2 nucleotide sequence of SEQ ID NO: 4 and its coding sequence of SEQ ID NO:5, a fragment of at least 10 consecutive nucleotides thereof, a complement thereof, a vector comprising said nucleic acid, a host cell comprising said vector, and a method for producing the murine Ese2 protein of SEQ ID NO:6.

Group 14. Claims 20-21, 23-29, 38, 54-57, drawn to an isolated nucleotide sequence encoding the variant murine Ese2L protein of SEQ ID NO:27, or the murine Ese2L nucleotide sequence of SEQ ID NO: 25 and its coding sequence of SEQ ID NO:26, a fragment of at least 10 consecutive nucleotides thereof, a complement thereof, a vector comprising said nucleic acid, a host cell comprising said vector, and a method for producing the variant murine Ese2L protein of SEQ ID NO:27.

Group 15. Claims 20, 22, 28-29, 38, drawn to an isolated nucleotide sequence encoding a human Ese2 protein.

Group 16. Claims 20, 22, 28-29, 38, drawn to an isolated nucleotide sequence encoding a variant human Ese2L protein.

Group 17. Claims 30-31, 33-36, drawn to a murine Ese2 protein of SEQ ID NO:6.

Group 18. Claims 30-31, 33-36, drawn to a variant murine Ese2L protein of SEQ ID NO:27.

Group 19. Claims 32, 35-36, drawn to a human Ese2 protein.

Group 20. Claims 32, 35-36, drawn to a variant human Ese2L protein.

Groups 21-24. Claim 37, drawn to an antibody to a murine Ese2, Ese2L, human Ese2 or human Ese2L. An antibody to each of said Ese polypeptides constitutes a single invention.

Groups 25-32. Claims 40, 42, drawn to a method for screening a candidate compound for treating a disorder characterized by an abnormality in the endocytotic pathway, wherein said pathway involving an interaction between a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein and a binding partner of one of these proteins, comprising screening for the ability of said candidate compound to disrupt said interaction. A method screening a candidate compound that disrupts the interaction between one of said Ese proteins and a binding partner constitutes a single invention.

Groups 33-39. Claims 40, 42, drawn to a method for screening a candidate compound for treating a disorder characterized by an abnormality in the endocytotic pathway, wherein said pathway involving an interaction between a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein and a binding partner of one of these proteins, comprising screening for the ability of said candidate compound to promote said interaction. A method screening a candidate compound that promotes the interaction between one of said Ese proteins and a binding partner constitutes a single invention.

Groups 40-47. Claims 41, 58, drawn to a method for treating or preventing a disorder characterized by an abnormality in the endocytotic pathway, wherein said disorder is cancer or abnormal cell division, comprising disrupting an interaction between a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein and a binding partner of one of these proteins. A method that disrupts the interaction between one of said Ese proteins and a binding partner constitutes a single invention.

Groups 48-55. Claims 41, 58, drawn to a method for treating or preventing a disorder characterized by an abnormality in the endocytotic pathway, wherein said disorder is abnormal cell migration, comprising disrupting an interaction between a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein and a binding partner of one of these proteins. A method that disrupts the interaction between one of said Ese proteins and a binding partner constitutes a single invention.

Groups 56-63. Claims 41, 58, drawn to a method for treating or preventing a disorder characterized by an abnormality in the endocytotic pathway, wherein said disorder is viral infection, comprising disrupting an interaction between a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein and a binding partner of one of these proteins. A method that disrupts the interaction between one of said Ese proteins and a binding partner constitutes a single invention.

Groups 64-71. Claims 41, 58, drawn to a method for treating or preventing a disorder characterized by an abnormality in the endocytotic pathway, wherein said disorder is abnormal receptor signaling, comprising disrupting an interaction between a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein and a binding partner of one of

these proteins. A method that disrupts the interaction between one of said Ese proteins and a binding partner constitutes a single invention.

Groups 72-79. Claims 41, 58, drawn to a method for treating or preventing a disorder characterized by an abnormality in the endocytotic pathway, wherein said disorder is abnormal tissue development, comprising disrupting an interaction between a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein and a binding partner of one of these proteins. A method that disrupts the interaction between one of said Ese proteins and a binding partner constitutes a single invention.

Groups 80-87. Claims 41, 58, drawn to a method for treating or preventing a disorder characterized by an abnormality in the endocytotic pathway, wherein said disorder is abnormal synaptic transmission, comprising disrupting an interaction between a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein and a binding partner of one of these proteins. A method that disrupts the interaction between one of said Ese proteins and a binding partner constitutes a single invention.

Groups 88-95. Claims 41, 58, drawn to a method for treating or preventing a disorder characterized by an abnormality in the endocytotic pathway, wherein said disorder is cancer or abnormal cell division, comprising promoting an interaction between a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein and a binding partner of one of these proteins. A method that promotes the interaction between one of said Ese proteins and a binding partner constitutes a single invention.

Groups 96-103. Claims 41, 58, drawn to a method for treating or preventing a disorder characterized by an abnormality in the endocytotic pathway, wherein said

disorder is abnormal cell migration, comprising promoting an interaction between a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein and a binding partner of one of these proteins. A method that promotes the interaction between one of said Ese proteins and a binding partner constitutes a single invention.

Groups 104-111. Claims 41, 58, drawn to a method for treating or preventing a disorder characterized by an abnormality in the endocytotic pathway, wherein said disorder is viral infection, comprising promoting an interaction between a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein and a binding partner of one of these proteins. A method that promotes the interaction between one of said Ese proteins and a binding partner constitutes a single invention.

Groups 112-119. Claims 41, 58, drawn to a method for treating or preventing a disorder characterized by an abnormality in the endocytotic pathway, wherein said disorder is abnormal receptor signaling, comprising promoting an interaction between a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein and a binding partner of one of these proteins. A method that promotes the interaction between one of said Ese proteins and a binding partner constitutes a single invention.

Groups 120-127. Claims 41, 58, drawn to a method for treating or preventing a disorder characterized by an abnormality in the endocytotic pathway, wherein said disorder is abnormal tissue development, comprising promoting an interaction between a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein and a binding partner of one of these proteins. A method that promotes the interaction between one of said Ese proteins and a binding partner constitutes a single invention.

Groups 128-135. Claims 41, 58, drawn to a method for treating or preventing a disorder characterized by an abnormality in the endocytotic pathway, wherein said disorder is abnormal synaptic transmission, comprising promoting an interaction between a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein and a binding partner of one of these proteins. A method that promotess the interaction between one of said Ese proteins and a binding partner constitutes a single invention.

Groups 136-143. Claim 43, drawn to a method for screening antagonist of a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein. A method that screen an antagonist of one of said Ese proteins a single invention.

Groups 144-151. Claims 44-45, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is cancer or abnormal cell division, or abnormal proliferation of cells capable of being stimulated to proliferate by a growth factor receptor, comprising administering an antagonist or agonist of or an antibody that specifically binds to a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein. A method comprising administering an antagonist or agonist of or an antibody that specifically binds to one of said Ese proteins constitutes a single invention.

Groups 152-155. Claims 44-45, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is cancer or abnormal cell division, or abnormal proliferation of cells capable of being stimulated to proliferate by a growth factor receptor, comprising administering an antisense of a murine Ese1, Ese1L, Ese2, or Ese2L polynucleotide of

SEQ ID NO: (1,2), (4,5), (22, 23), or (25, 26). A method comprising administering an antisense of one of said Ese polynucleotides constitutes a single invention.

Groups 156-163. Claims 44-45, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is cancer or abnormal cell division, or abnormal proliferation of cells capable of being stimulated to proliferate by a growth factor receptor, comprising administering an agent which downregulates the protein level of a murine or a human Ese1, Ese1L, Ese2, or Ese2L gene expression. A method comprising administering an agent which down regulates the protein level of one of said Ese constitutes a single invention.

Groups 164-171. Claims 44-45, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is cancer or abnormal cell division, or abnormal proliferation of cells capable of being stimulated to proliferate by a growth factor receptor, comprising administering an agent which down regulates the mRNA level of a murine or a human Ese1, Ese1L, Ese2, or Ese2L gene expression. A method comprising administering an agent which downregulates the mRNA level of one of said Ese constitutes a single invention.

Groups 172-179. Claims 44-45, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is cancer or abnormal cell division, or abnormal proliferation of cells capable of being stimulated to proliferate by a growth factor receptor, comprising

administering an antagonist of a binding partner of a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein. A method comprising administering an antagonist of a binding partner of one of said Ese proteins constitutes a single invention.

Groups 180-187. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is abnormal cell migration, comprising administering an antagonist or agonist of or an antibody that specifically binds to a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein. A method comprising administering an antagonist or agonist of or an antibody that specifically binds to one of said Ese proteins constitutes a single invention.

Groups 188-191. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is abnormal cell migration, comprising administering an antisense of a murine Ese1, Ese1L, Ese2, or Ese2L polynucleotide of SEQ ID NO: (1,2), (4,5), (22, 23), or (25, 26). A method comprising administering an antisense of one of said Ese polynucleotides constitutes a single invention.

Groups 192-199. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is abnormal cell migration, comprising administering an agent which downregulates the protein level of a murine or a human Ese1, Ese1L, Ese2, or Ese2L gene expression. A method comprising administering an agent which down regulates the protein level of one of said Ese constitutes a single invention.

Groups 200-207. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is abnormal cell migration, comprising administering an agent which down regulates the mRNA level of a murine or a human Ese1, Ese1L, Ese2, or Ese2L gene expression. A method comprising administering an agent which downregulates the mRNA level of one of said Ese constitutes a single invention.

Groups 208-215. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is abnormal cell migration, comprising administering an antagonist of a binding partner of a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein. A method comprising administering an antagonist of a binding partner of one of said Ese proteins constitutes a single invention.

Groups 216-223. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is viral infection, comprising administering an antagonist or agonist of or an antibody that specifically binds to a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein. A method comprising administering an antagonist or agonist of or an antibody that specifically binds to one of said Ese proteins constitutes a single invention.

Groups 224-227. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is viral infection, comprising administering an antisense of a murine Ese1, Ese1L, Ese2, or Ese2L polynucleotide of SEQ ID NO: (1,2), (4,5), (22, 23), or (25, 26).

A method comprising administering an antisense of one of said Ese polynucleotides constitutes a single invention.

Groups 228-235. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is viral infection, comprising administering an agent which downregulates the protein level of a murine or a human Ese1, Ese1L, Ese2, or Ese2L gene expression. A method comprising administering an agent which down regulates the protein level of one of said Ese constitutes a single invention.

Groups 236-243. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is viral infection, comprising administering an agent which down regulates the mRNA level of a murine or a human Ese1, Ese1L, Ese2, or Ese2L gene expression. A method comprising administering an agent which downregulates the mRNA level of one of said Ese constitutes a single invention.

Groups 244-251. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is viral infection, comprising administering an antagonist of a binding partner of a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein. A method comprising administering an antagonist of a binding partner of one of said Ese proteins constitutes a single invention.

Groups 252-259. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein

said disorder is abnormal receptor signaling, comprising administering an antagonist or agonist of or an antibody that specifically binds to a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein. A method comprising administering an antagonist or agonist of or an antibody that specifically binds to one of said Ese proteins constitutes a single invention.

Groups 260-264. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is abnormal receptor signaling, comprising administering an antisense of a murine Ese1, Ese1L, Ese2, or Ese2L polynucleotide of SEQ ID NO: (1,2), (4,5), (22, 23), or (25, 26). A method comprising administering an antisense of one of said Ese polynucleotides constitutes a single invention.

Groups 265-271. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is abnormal receptor signaling, comprising administering an agent which downregulates the protein level of a murine or a human Ese1, Ese1L, Ese2, or Ese2L gene expression. A method comprising administering an agent which down regulates the protein level of one of said Ese constitutes a single invention.

Groups 272-279. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is abnormal receptor signaling, comprising administering an agent which down regulates the mRNA level of a murine or a human Ese1, Ese1L, Ese2, or Ese2L

gene expression. A method comprising administering an agent which downregulates the mRNA level of one of said Ese constitutes a single invention.

Groups 280-287. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is abnormal receptor signaling, comprising administering an antagonist of a binding partner of a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein. A method comprising administering an antagonist of a binding partner of one of said Ese proteins constitutes a single invention.

Groups 288-295. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is abnormal tissue development, comprising administering an antagonist or agonist of or an antibody that specifically binds to a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein. A method comprising administering an antagonist or agonist of or an antibody that specifically binds to one of said Ese proteins constitutes a single invention.

Groups 296-299. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is abnormal tissue development, comprising administering an antisense of a murine Ese1, Ese1L, Ese2, or Ese2L polynucleotide of SEQ ID NO: (1,2), (4,5), (22, 23), or (25, 26). A method comprising administering an antisense of one of said Ese polynucleotides constitutes a single invention.

Groups 300-307. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is abnormal tissue development, comprising administering an agent which downregulates the protein level of a murine or a human Ese1, Ese1L, Ese2, or Ese2L gene expression. A method comprising administering an agent which down regulates the protein level of one of said Ese constitutes a single invention.

Groups 308-315. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is abnormal tissue development, comprising administering an agent which down regulates the mRNA level of a murine or a human Ese1, Ese1L, Ese2, or Ese2L gene expression. A method comprising administering an agent which downregulates the mRNA level of one of said Ese constitutes a single invention.

Groups 316-323. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is abnormal tissue development, comprising administering an antagonist of a binding partner of a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein. A method comprising administering an antagonist of a binding partner of one of said Ese proteins constitutes a single invention.

Groups 324-331. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is abnormal synaptic transmission, comprising administering an antagonist or agonist of or an antibody that specifically binds to a murine or a human Ese1, Ese1L,

Ese2, or Ese2L protein. A method comprising administering an antagonist or agonist of or an antibody that specifically binds to one of said Ese proteins constitutes a single invention.

Groups 332-335. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is abnormal synaptic transmission, comprising administering an antisense of a murine Ese1, Ese1L, Ese2, or Ese2L polynucleotide of SEQ ID NO: (1,2), (4,5), (22, 23), or (25, 26). A method comprising administering an antisense of one of said Ese polynucleotides constitutes a single invention.

Groups 336-343. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is abnormal synaptic transmission, comprising administering an agent which downregulates the protein level of a murine or a human Ese1, Ese1L, Ese2, or Ese2L gene expression. A method comprising administering an agent which down regulates the protein level of one of said Ese constitutes a single invention.

Groups 344-351. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is abnormal synaptic transmission, comprising administering an agent which down regulates the mRNA level of a murine or a human Ese1, Ese1L, Ese2, or Ese2L gene expression. A method comprising administering an agent which downregulates the mRNA level of one of said Ese constitutes a single invention.

Groups 352-359. Claim 44, drawn to a method for treating a disorder characterized by an undesired level of endocytotic activity of an Ese protein, wherein said disorder is abnormal synaptic transmission, comprising administering an antagonist of a binding partner of a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein. A method comprising administering an antagonist of a binding partner of one of said Ese proteins constitutes a single invention.

Groups 360-367. Claim 47, drawn to a method for promoting endocytosis, comprising administering a murine or a human Ese1, Ese1L, Ese2, or Ese2L protein, or an active analogue or mimic thereof. A method comprising administering one of said Ese proteins constitutes a single invention.

Group 368. Claim 48, drawn to a method for blocking clathrin-mediated endocytosis, comprising overexpressing Ese1 protein, or an active analogue or mimic thereof.

Group 369. Claim 49, drawn to a method for regulating endocytosis, comprising providing an Ese1-Esps 15 complex and further binding said complex to dynamin.

In addition, upon election of any one of groups 5-8, further election of the following patentably distinct species is required:

a) Wild type Ese, or fragment thereof, b) mimetic of Ese, c) a non-functional mutant, or fragment thereof, or d) mimetic of a non-functional mutant.

Upon election of any one of groups 40-135, further election of the following patentably distinct species is required:

Treating or preventing a disorder.

Upon election of any one of groups 360-368, further election of the following patentably distinct species is required:

a) Wild type Ese, or fragment thereof b) an active analogue, c) a mimic.

The inventions listed as Groups 1- 369 do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

A national stage application shall relate to one invention only or to a group of inventions so linked as to form a single general inventive concept. When claims to different categories are present in the application, the claims will be considered to have unity of invention if the claims are drawn only to one of the following combinations of categories: (1) A product and a process specially adapted for the manufacture of said product; or (2) A product and a process of use of said product; or (3) A product, a process specially adapted for the manufacture of the said product, and a use of the said product; or (4) A process and an apparatus or means specifically designed for carrying out the said process; or (5) A product, a process specially adapted for the manufacture of the said product, and an apparatus or means specifically designed for carrying out the said process. If multiple products, processes of manufacture or uses are claimed, the first invention of the category first mentioned in the claims of the application will be considered as the main invention in the claims, see PCT article 17(3) (a) and 1.476 (c), 37 C.F.R. 1.475(b) and (d). Group I will be the main invention. After that, all other products and methods will be broken out as separate groups (see 37 CFR 1.475(d).)

Group 1, claims 1-2, 4-10, 19, 50-53 form a single general inventive concept.

Groups 2-24 are additional compositions, i.e., nucleotide sequences, proteins and antibodies, which do not share the same structure of nucleotide sequences encoding the murine Ese1 protein of SEQ ID NO:3, or the murine Ese1 nucleotide sequence of SEQ ID NO: 1 and its coding sequence of SEQ ID NO:2 of group 1:

Groups 152, 188, 224, 260 and 332 are additional use claimed for SEQ ID Nos: 1 and 2.

Groups 25-151, 153-187, 189-223, 225-259, 261-331, 333-369 are not linked to the single general inventive concept of Groups I because they do not recite the use of SEQ ID Nos: 1 and 2.

The species wild type, mimetic or mutant are distinct because they do not share the same structure.

The species treating or preventing a disorder is distinct, because a treated disease does not necessarily mean that said disease could be prevented.

Because these inventions are distinct for the reason given above and have acquired a separate status in the art, and because the searches for the groups are not co-extensive, restriction for examination purposes as indicated is proper.

Applicants are required under 35 USC 121 to elect a single disclosed group for prosecution on the merits to which the claims shall be restricted. Applicant is further advised that if Applicant elects a group having species requirement, a response to this requirement must include an identification of the species that is elected consonant with

this requirement, and a listing of all claims readable thereon, including any claims subsequently added.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 USC 103 of the other invention.

Applicants are reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 C.F.R. 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendement of inventorship must be accompanied by a diligently-filed petition under 37 C.F.R. 1.48(b) and by the fee required under 37 C.F.R. 1.17(h).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH-TAM DAVIS whose telephone number is 703-305-2008. The examiner can normally be reached on 9:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ANTHONY CAPUTA can be reached on 703-308-3995. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0916.

MINH TAM DAVIS

January 20, 2003

ANTHONY C. CAPUTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600